

AMENDMENT UNDER 37 C.F.R. § 1.111
Application No.: 10/630,751
Atty Docket No.: Q71391

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claim 1. (currently amended): A magnetic recording medium having a nonmagnetic substrate on which is provided at least a ~~softly~~soft magnetic under-film, an orientation control film that controls an orientation of a film directly above, a perpendicular magnetic recording film having an axis of easy magnetization oriented to be mainly perpendicular to the substrate, and a protective film, wherein the orientation control film is an alloy containing at least Cr and C.

Claim 2. (original): The magnetic recording medium according to claim 1, wherein the orientation control film has a C content that is not less than 10 at% and not more than 80 at%.

Claim 3. (original): The magnetic recording medium according to claim 1, wherein the orientation control film has a C content that is not less than 30 at% and not more than 70 at%.

Claim 4. (original): The magnetic recording medium according to claim 1, wherein the orientation control film has a Cr content that is not less than 3 at% and not more than 80 at%.

Claim 5. (original): The magnetic recording medium according to claim 1, wherein the orientation control film has a thickness that is not less than 0.5 nm and not more than 20 nm.

Claim 6. (original): The magnetic recording medium according to claim 2, wherein the orientation control film has a thickness that is not less than 0.5 nm and not more than 20 nm.

Claim 7. (original): The magnetic recording medium according to claim 1, wherein the perpendicular magnetic recording film is formed of a material containing at least Co and Pt.

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Claim 8. (original): The magnetic recording medium according to claim 2, wherein the perpendicular magnetic recording film is formed of a material containing at least Co and Pt.

Claim 9. (currently amended): A method of manufacturing the magnetic recording medium according to claim 1, comprising carrying out, in order, at least a step of forming a ~~softly~~soft magnetic under-film on a nonmagnetic substrate, a step of forming an orientation control film that controls an orientation of a film directly above, a step of forming a perpendicular magnetic recording film having an axis of easy magnetization oriented to be mainly perpendicular to the substrate, and a step of forming a protective film.

Claim 10. (currently amended): A method of manufacturing the magnetic recording medium according to claim 2, comprising carrying out, in order, at least a step of forming a ~~softly~~soft magnetic under-film on a nonmagnetic substrate, a step of forming an orientation control film that controls an orientation of a film directly above, a step of forming a perpendicular magnetic recording film having an axis of easy magnetization oriented to be mainly perpendicular to the substrate, and a step of forming a protective film.

Claim 11. (original): A magnetic recording and reproduction apparatus comprising the magnetic recording medium according to claim 1 and a magnetic head that records and reproduces information on the magnetic recording medium, wherein the magnetic head is a magnetic monopole head.

Claim 12. (original): A magnetic recording and reproduction apparatus comprising the magnetic recording medium according to claim 2 and a magnetic head that records and

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reproduces information on the magnetic recording medium, wherein the magnetic head is a magnetic monopole head.